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Monthly Engineering Report No. 11

Improvement of Wide-Band FM Radar
Detection Techniques

Period Covered: 1 August 1961 to 31 August 1961

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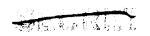revelation of its contents in any manner to an unauthorized person
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General Comments

This report covers the eleventh period of contract activity for improvement of FM radar detection techniques.

The job has been staffed by one full-time senior engineer, one part-time senior engineer, one full-time engineer, and one part-time engineer. The effort has been principally fabrication and test and some design to offset necessary changes.

Activities of the Report Period

Delivery of the tuning fork filters was made during the period. Tests showed that the filters lacked sufficient non-resonant rejection to be effective in this system. The primary problem is one of direct coupling between input and output terminals. An engineer visited the vendor with the filters to discuss these problems. It is unlikely that the filter performance can be sufficiently improved in the allowable time remaining. The alternate approach to the filter, that of Q-multiplication, has been substituted. Improvement in the existing design has been effected and its effective use in the system is virtually assured.

The M2208-B Traveling Wave Tube was received from the vendor and tested. The unit performs satisfactorily and its operation as a translator is assured. The effectiveness of the unit in the system will be a prime object of evaluation. This evaluation is to begin immediately upon complete integration of the system.

The fabrication of all units except the Q-multipliers is complete. Integration of the other components of the system is in progress.

Program for the Ensuing Period

Integration of the subsystems is to be the prime objective of the next period. Testing as a system will begin and operational problems and their effects on performance will be the prime consideration.

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